DOCUMENT RESUME

ED 057 961 RC 005 840

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TITLE The Problem of Convergence and Commitment in Multigroup Evaluation Planning.
PUB DATE Feb 69
NOTE 13p.; Paper presented at American Educational Research Association meeting, Los Angeles, California, February 1969

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Evaluation; Innovation; *Interagency Coordination; *Models; Problem Solving; Program Development; Program Planning; *Rural Education; *Small Schools; Systems Approach

ABSTRACT

This paper outlines a model for multigroup evaluation planning in a rural-education setting wherein the commitment to the structure necessary to evaluate a program is needed on the part of a research and development laboratory, the state departments of education, county supervisors, and the rural schools. To bridge the gap between basic research, development, and dissemination and diffusion in such a setting, a continual 4-cycle evaluation process is set forth (such as has been used with the Small Schools Program of the Development Division in the Northwest Regional Educational Laboratory). In addition, to the narrative in the document, Chart I contains the research and development continuum in terms of 9 phases: research, scanning, invention, prototype, adaption, field test, redesign, diffusion, and adoption; Chart II illustrates the 4-cycle assessment procedure; Chart III shows the basic data flow from the field test sites to the development team; and Chart IV gives the time line and responsibilities flow. (MJB)

ED057961

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The Problem of Convergence and Committment in Multigroup Evaluation Planning

Chester A. Hausken

This paper will briefly outline the necessary converging on a specific area of concern (rural education) and the committment of a group of agencies to the structure necessary to evaluate the developmental phases.

The history of rural education has been one in which efforts to solve problems have been administrative, intuitional and the implementing of certain practices which appeared to resolve a perceived problem. Many of these approaches have been rather unsuccessful except certain obvious administrative practices. Practically no research has been done on the basic problem of the plight of rural communities.

There have been three common approaches to rural problems. The first of these is the appointment of a commission or study group to point out the problems. An example of this approach is the National Advisory Commission on rural poverty (1967) which declared the situation as they found it a "national disgrace." The commission found that while our rural population is less than 30 per cent of our total, 46 per cent of the nation's poor -- 19 million -- live in rural areas. Most of the reductions ir our poverty population refer to the urban, not rural, poor. For American Indians and Eskimos, poverty is a universal fact of life. Rural America continues to offer grossly inadequate educational-vocational opportunities to its youngsters and very low salaries to teachers. And almost unbelievably, some 60 percent of the rural youth who are enrolled in rural vocational and technical schools are studying agriculture -- where there are probably the fewest decent job opportunities for them in the foreseeable future.

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The National Advisory Commission on Rural Education made recommendations such as:

(1) Every rural elementary school should have access to specialists in early childhood education.

(2) Private foundations and industry should take a more active interest in the quality of rural school teachers and set up a system of awards for excellence.

(3) Every child beginning at the age of three should have the opportunity to participate in a good preschool program.

(4) Every needy child should be provided with free books.

It appears that these kinds of recommendations are relevant but rather global in nature. These recommendations illustrate the need for a more systematized approach to the identification and solution strategies for rural problems.

The second approach which has been used frequently is various administrative reorganizations or practices which do not apply to rural areas. An example of this is the tendency to accredit schools on the basis of size. You must have a certain number of students to qualify for certain federal and state programs that are badly needed in rural areas where the sparsity of population many times prohibits the school from participating.

The third approach is intuitional, which can be illustrated by transfer of big school ideas to the rural areas. If it is good for the large urban school, by intuition it is applicable to rural schools.

In addition to the administrative and intuitional efforts to solve problems in rural education, others have taken either a traditional research approach or attempted immediate implementation of a promising practical scheme. Unfortunately, neither of these approaches has been very successful and have been tried most often in nonrural environments. Research projects lead to journal articles and reports but rarely change the conduct of

education. Practical efforts typically have little research evidence to support them, are not easily replicated, and usually result in minimal long-term benefit.

What is needed is a more systematic approach to the bridging of the gap between trained researchers, developers and competent practitioners. In bridging this gap between research and development as it applies to rural areas there appear to be at least three major steps that need to be taken. The creation of ideas and theories (basic research), the application and testing of these creations (development) and the broad scale introduction of proven methods or materials (dissemination and diffusion).

Also, three basic conditions must be met if this bridging is to take place--first, a tangible product must be developed and the product must be subjected to successive evaluation and revisions, and the testing must be done under the conditions in which it will be used. Rarely has this strategy been applied to the typical classroom setting involving materials, teachers and students.

The regional laboratories movement which was initiated in the fall of 1966 has as its primary mission the institutionalization of development as it relates to the solution of problems in education. The Northwest Regional Educational Laboratory is a nonprofit corporation which is clearly an advocate for improving education, for innovation and change. As a result of this committment the Laboratory is in the business of producing new alternatives from which educators may choose. These new alternatives are produced with the realization that judgments must be made as to the scanning, selecting, revision, field testing and other phases of the developmental process.

Quality assurance in all phases of the RD & D process places an emphasis on the evaluation process. For example, the Small Schools Program of the Development Division in the Northwest Regional Educational Laboratory

has as its primary mission the conceptualization and testing of components of a total learning environment for youth in isolated rural schools. The activities comprising the program are aimed at the use of modern technology to provide a wider range of instruction, defining a new role for teachers and training for this role, designing an inservice program for administrators, introductory systems technology training for staff, planning space that enhances creative learning, and the development and testing of a rural change model.

The theoretical framework for development of strategies which guide the activities of the Small Schools Program is provided partly by Rogers in his "Diffusion of Innovations" and by the work of Hartenberger through his analysis of the regionality of the Northwest. Hartenberger and Rogers agree that in order for change to take place a situation must be provided. The location of the activity must be in the community where you feel the changes should be made. Second, there must be well defined goals or ends so that the rural people can easily see that there are end products or means of attaining the goal. Thirdly, the development team will be regulated by the norms of the local area and they must be acutely aware of regionality.

Summarizing, (a) a situation must be provided,

(b) where goals can be defined,

(c) being aware of local norms.

(Dr. Giammatteo, the next speaker, will discuss this issue.)

The developmental flow of products within the Small Schools Program has nine phases and entry can be made at any phase. The phases begin with basic research and end with the adoption process. The nine phases are:

(1) research

(2) scanning In preparation

(3) invention

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(4) prototype

(5) adaption

Interim

(6) field test

(7) redesign

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(8) diffusion

Release

(9) adoption

(See Chart I for a more complete description of each phase.)

This paper intends to describe one overriding condition that must be met in order for such a process to take place. This condition is the continual evaluation that must be built into the process. Quality assurance demands that the summative as well as the formative evaluation be planned and carried out.

The content of the evaluation model for the Small Schools Program is formative and summative in nature and the basic purpose of the model is to address the evaluation to the developmental and impact phases. In evaluating these two aspects the model calls for the following four-cycle assessment procedure. (See Chart II)

Cycle One - examination of the component's administrative structure and process

Cycle Two - examination of the programmatic processes within the component

Cycle Three - examination of the component's output and impact

Cycle Four - examination of the contextual system within which the component operates.

Within each evaluation cycle there are a number of stages or "pulses" corresponding either to one of the nine phases of the developmental model or to a point on a time line. For example, the three pulses of Cycle One are tied to developmental phases two, three, four and six while the various pulses of Cycle Four are scheduled by calendar and in accordance with certain phases.

CHART I

RESEARCH AND DEVELOPMENT CONTINUUM FOR PROGRAM 400

RESEARCH	SCANNING	INVENTION	PROTOTYPE	ADAPTATION
Research literature provides for invention or innovation.	Search for research findings, examine the inventions and assess prototypes that offer promise to the solutions to educational problems.	Formulate new solutions or construct packages that create new ways of dealing with identified problems.	The results of inventions are packaged into ways usable in field settings.	Modification of an existing prototype to fit conditions of a new environment.
	• What is known? • Where are prototypes being used that appear to hold promise? • How ready is prototype for trial?	• Can products be constructed that at least partially solve identified educational problems? • Are they feasible? • Can they be engineered?	• What is the performance, costs, convenience? • Is it generalizable? • Does the product appear to meet educational needs?	• How extensive are the required modifications? • How well does it work after adaptation? • Does it hold promise? • Should it be tested more broadly?

CHART I (cont.)
RESEARCH AND DEVELOPMENT CONTINUUM FOR PROGRAM 400

FIELD TEST/REDESIGN					
Test 1	Redesign A	Test 2	Redesign B	Test 3	Redesign C
Try out invention prototype, or adaptation at a field test site without the inventors' influence.	Modify prototype in light of feedback data resulting from initial field trials.	Redesigned prototype is retested in field trial situation.	Further modifications to tested prototype are made based on field test #2 data results.	Final field testing of redesigned prototype in expanded field test sites.	Final modifications.
• How well does it work in a reality situation? • Do results justify continued development? • What changes are needed prior to use or further field testing? • Is it ready for expanded testing or broad dissemination?	• How extensive are the modifications required? • Are new field trial conditions indicated?	• How well did it work after modification? • Do results justify continued development? • Are new field conditions required for adequate testing? • Is it ready for expanded testing or broad dissemination?	• How extensive are modifications needed? • Are expanded field trial conditions indicated?	• How well did it work after second modification? • Do results justify continued development? • Are still more changes needed? • Is it ready for expanded testing or broad dissemination?	• What final refinements are needed prior to dissemination?

CHART I (cont.)

RESEARCH AND DEVELOPMENT CONTINUUM FOR PROGRAM 400

DIFFUSION			ADOPTION		
Dissemination	Internal Demo.	External Demo.	Trial	Installation	Institutionalize
To create widespread awareness of the invention among practitioners, i.e., to <u>inform</u>.	To afford an opportunity to examine and assess operating qualities of the invention, i.e., to <u>build conviction</u>.	To continue information process to build conviction outside basic field sites.	To build familiarity with the invention and provide a basis for assessing the quality, value, fit, and utility of the invention in a particular institution, i.e., to <u>test</u>.	To fit the characteristics of the invention to the characteristics of the adopting institution, i.e., to <u>operationalize</u>.	To assimilate the invention as an integral and accepted component of the system, i.e., to <u>establish</u>.

CHART 11
OPERATION OF EVALUATION CYCLES IN RELATIONSHIP TO THE NINE DEVELOPMENTAL PHASES OF A PROGRAM 400 COMPONENT

EVALUATION CYCLE / DEVELOPMENTAL PHASE	CYCLE ONE ADMINISTRATIVE STRUCTURE AND PROCESS	CYCLE TWO PROGRAMMATIC PROCESS	CYCLE THREE OUTPUTS AND PROGRAM IMPACT	CYCLE FOUR CONTEXTUAL SYSTEM
PHASE ONE Research Scanning or Selection		First Pulse: -Evaluation of Feasibility -Process		First Pulse: <u>Institutional</u>: Attitudes Service needs Policies Isolation Conflict Turnovers Priorities Change capacity
PHASE TWO Invention or Retrieval	First Pulse: Structure Analysis (of initial structure) -Planning -Staffing -Budget	Second Pulse: Evaluation of -Design process -Use of experts -Test design		Second Pulse: <u>Teachers</u>: Attitudes Skill levels Experience Training Behaviors Change capacity
PHASE THREE Prototype Adaptation	Second Pulse: Structure Analysis (of cooperative contacts) Process Analysis -Job allocation -Supervision, etc.	Third Pulse: Evaluation of -Field testing -Feedback -Redevelopment -Cooperation and involvement -Workshop process -Selection of participants	First Pulse: Developmental model Change model Prototype systems Equipment (if any)	<u>Students</u>: Attitudes Learning skills Achievements Aspirations Behaviors Change capacity
PHASE FOUR Field Test Redesign	Third Pulse: Field test sites Teachers Managers	Fourth Pulse: Evaluation of -Final system -Design of materials	Second Pulse: Orientation package Systems managers (trained) Demonstration prototype plan	Third Pulse: <u>NWREL Staff</u>: Program staff R & E staff <u>Participating Groups</u>: Administrators Teachers Students Community
PHASE FIVE Diffusion		Fifth Pulse: Dissemination External Internal		Fourth Pulse: <u>Non-participating Groups</u>: Administrators Teachers School Boards Communities
PHASE SIX Adoption	Third Pulse: Review of Structure and Alternatives Review of Procedures and Alternatives	Sixth Pulse: Evaluation of trial and Installation	Third-Fourth-Fifth Pulse: Followup: Evaluation of outputs and dissemination	

One activity within the Small Schools Program is the adaptation of the Patterns In Arithmetic materials produced at the R & D Center of the University of Wisconsin. The activity enters the developmental continuum at phases 4 and 5 (prototype and adaptation.) The basic steps taken to implement the activity are as follows:

I. Development of rationale for program
   - A. Research base
   - B. Needs assessment
   - C. Staffing for implementation

II. Establish relationship with rural agencies
   - A. State Department of Public Instruction
     1. Building interest in program
     2. Selecting coordinator
     3. Selecting site for trial
     4. Contacting county superintendent
     5. Orientation for county and S.D.P.I. personnel

III. Establishing plans for evaluation
   - A. Identify participants at each level
   - B. Techniques to derive plan
     1. Forced field analysis
     2. Target group analysis
     3. Establish time line and responsibilities
   - C. Rough draft completed
   - D. Pilot of all instrumentation and procedures
   - E. Feedback to participants for revisions
   - F. Field testing and revisions based on data flow
   - G. Start dissemination based on model

At each of these steps in the developmental process the evaluation design falls into one of the basic four cycles.

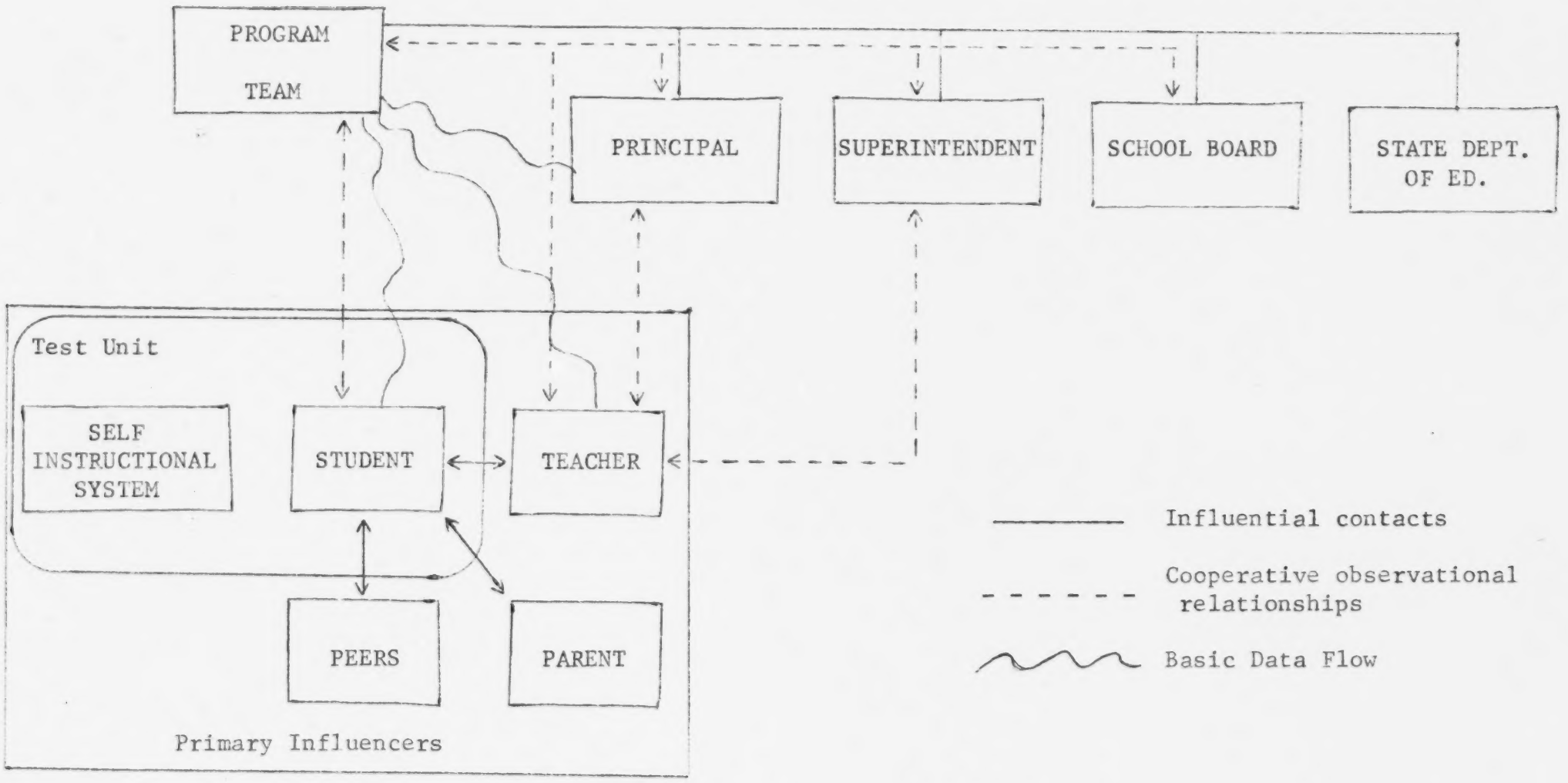
Chart III shows the basic data flow from the field test sites to the development team. Chart IV is the time line and responsibilities flow.

This briefly outlines the necessary converging on a specific area of concern (rural education) and the committment of a group of agencies (the Laboratory, the State Departments of Education, county supervisors and rural schools) and the structure to facilitate evaluation of the solution to certain identified problems. A discussion of the effects of the cultural setting and the adoption model will be done by Dr. Giammatteo who is the next speaker.

Thank you.

CHART III
EVALUATION FLOW

Northwest Regional Educational Laboratory
Program 400



IDAHO 480 - PATTERNS IN ARITHMETIC

- Idaho City
- Garden Valley
- Cascade

CRITERIA FOR PILOT

- Adjacent to Dept.
- Close Enough to Work Together
- Three Different Finance Patterns

CHART IV

	Responsible for Data Collection	Nov	Dec	Jan	Feb	Mar	Apr	May	June
INTERVIEWS • Visitations Report	Laboratory State Dept.	X	X	X	X	X	X	X	X
QUESTIONNAIRE • Equipment Report	State Dept.	----------AS REPAIRS ARE NEEDED----------							
DEBRIEFINGS • Oral Schedule	February 1 - State Dept. May 1 Laboratory				X			X	
TEST DATA • Achievement Data • Teacher Test Data Mid-term Final	State Dept.			X			X	X	
DEMOGRAPHIC • State Records • District Records	Laboratory	COLLECTED DURING VISITATIONS							